





ON THE

NATURE OF THE MEMBRANE OCCASIONALLY  
EXPELLED IN DYSMENORRHOEA.

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It is well known that in some cases of dysmenorrhœa an organised membrane is expelled, with much pain, from the uterus during the course of the catamenial discharge, and that this happens either occasionally only, or, what is far more common, during a long succession of menstrual periods.

All authors who have expressed an opinion regarding the nature of this dysmenorrhœal membrane have, as far as I am aware, regarded it as a morbid structure formed by the exudation of coagulable lymph or fibrine upon the free surface of the mucous membrane of the uterus.

"It is composed (says Dr Churchill) of plastic lymph, such as we see secreted by the mucous membrane of the trachea in croup, thrown off by the lining membrane of the uterus, and taking generally the form of the cavity of that organ, although it may be discharged in shreds."<sup>1</sup>

"We shall probably be correct (Dr Montgomery observes) in referring such productions [dysmenorrhœal membranes] to any cause capable of exciting a certain degree of irritation, or perhaps of inflammation, by which fibrine is poured out on the internal surface of the cavity of the uterus, and assumes a membranous texture, as we find happen in other hollow organs lined with a mucous membrane, as, for instance, in the intestines in cases of diarrhœa tubularis, and in the trachea and air tubes."<sup>2</sup>

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<sup>1</sup> Diseases of Females, p. 102. Edition of 1844.

<sup>2</sup> Signs of Pregnancy, p. 147.

"The membranous shreds passed in some of these cases [of dysmenorrhœa] evidently (remarks Dr Copland) consist of plastic lymph thrown out in the cavity of the womb. . . . That a degree of inflammatory irritation exists in the internal surface of the uterus, even in the neuralgic form of the disease, is proved by the formation and expulsion of a false membrane in many cases of that form. That this membrane is induced by the similar state of inflammatory action to that which sometimes occurs in other mucous surfaces, and gives rise to a similar exudation, is most probable, notwithstanding the absence of other inflammatory phenomena, and the neuralgic character of the pain."<sup>1</sup>

In a number of cases, I have had an opportunity of examining from time to time the form and structure of these dysmenorrhœal membranes. Two or three years ago, my observations upon them led me to believe that they were not new or false membranes formed of coagulable lymph, and secreted by the mucous surface of the uterus, but that they in reality consisted of the mucous membrane of the uterus itself, hypertrophied and separated. All my later observations have gone to confirm me in the same opinion; viz. that the productions in question are not the results, as is generally supposed, of fibrinous or plastic *exudations upon* the free surface of the mucous membrane of the uterus, but that they consist of actual *exfoliations of* that membrane itself.

The proof of this opinion rests upon different grounds:—

*First*, The dysmenorrhœal membrane presents anatomical peculiarities that are never seen in any simple fibrinous or inflammatory exudation; and these anatomical peculiarities, on the other hand, specially pertain to, and are characteristic of, the structure of some mucous tissues, such as that of the uterus. One special illustration may suffice. Professor Reid, Krauss, and others, have shown, that the surface of the mucous membrane of the uterus is marked by numerous orifices of small tubular glands, crypts, or follicles, opening upon it (the uterine glands of some modern authors). This structure I have distinctly traced in different specimens of dysmenorrhœal membrane from different individuals.

*Secondly*, The general configuration and character of the surfaces of the dysmenorrhœal membrane are such as would result from the origin which I have attributed to it, namely, the exfoliation or detachment of the mucous membrane of the uterus. In those instances in which the membrane is thrown off in one piece, and without disintegration, it presents exactly the flattened triangular

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<sup>1</sup> Dictionary of Practical Medicine, vol. ii. pp. 844, 845. See also Dr Fergusson in the Library of Medicine, vol. iv. p. 311 ("a not uncommon effect of dysmenorrhœa is the formation of *coagulable lymph* modelled to the shape of the inner surface of the uterus). Dr Rigby's Essay on Dysmenorrhœa, p. 39 ("*fibrinous exudations* every now and then attend these cases of dysmenorrhœa).—Dr Ashwell's Treatise on Female Diseases, p. 105 and 107, &c.

appearance of the uterine cavity. Its sides may be so compressed that the expelled mass at first appears solid; but a little careful dissection or maceration will readily show that it consists of two layers, and that there are the remains of a cavity between them. The interior of the cavity is smooth, and marked by the orifices of the uterine mucous crypts that I have above alluded to. Occasionally we can easily trace three large openings at its three angles, corresponding to the openings of the two Fallopian tubes and cervix uteri. But the external surface of the mass is rough and shaggy, marking the effects of laceration from the tissue of the uterus. Sometimes we see a piece discharged quite smooth on one surface, and rough on the other. When this is the case, we may be perfectly certain that it is a portion only of the membrane which has been expelled, or, at least, preserved for inspection. For, if the portion of mucous membrane lining the anterior wall of the uterus alone, or lining its posterior wall alone, be discharged and examined (and not that of the whole cavity), it will necessarily display the apparent anomaly alluded to. If the membrane is thrown off in broken or disintegrated fragments, as sometimes happens, it will be more difficult to trace the structural characteristics that I have mentioned. Another form of difficulty is occasionally produced by blood being infiltrated into or upon the dysmenorrhœal membrane. In some instances the membrane is found incased in one or more layers of coagulated blood; and if that blood has already become decolorized, and assumed a fibrinous appearance, mistakes might easily occur, provided the inquirer were not aware of this source of fallacy.

One of the earliest descriptions of the dysmenorrhœal membrane upon record is given by Morgagni. He gives an exact account of the appearances which it presented in the case of a "noble matron," long afflicted at the menstrual period with "pains like those of child-birth." Morgagni's description of the dysmenorrhœal membrane expelled on these occasions is so exact and excellent, that I shall perhaps be excused quoting it. "In almost the middle (as he states) of the membranous flux, a membranous body, as it appeared, was discharged from the uterus; and that in such a form, and of such a magnitude, as perfectly corresponded to the triangular form of the uterus; being moderately convex externally; on which surface it was unequal and not without many filaments that seemed to have been broken off from the parts to which they had adhered, but internally hollow; on which surface it was smooth and moist, as if from an aqueous humour, which it had before contained, but had discharged, at its own exit, by an ample opening, which was at one of its angles, that had been readily opened by rupture."<sup>1</sup>

*Thirdly,* The dysmenorrhœal membrane exactly resembles the

<sup>1</sup> Morgagni, "The Seats and Causes of Diseases," &c. Vol. ii. p. 706.



decidual membrane (the decidua vera); and all our highest authorities in anatomy are, I believe, now willing to grant that, as pointed out by the researches of Sharpey, Weber, Goodsir, and others, the decidua vera is not a new membrane, formed in the uterus after conception, but merely the normal mucous membrane of the uterus hypertrophied, with its mucous crypts or follicles increased in size, and the cells of its interstitial tissue greatly developed and multiplied. In the dysmenorrheal membrane the mucous follicles or crypts are perhaps not enlarged and developed to the same proportionate degree as they are in the decidual membrane. In other respects the two membranes are identical. They have the same triangular form. There is the same appearance in both of openings at their three angles, and in both these openings are occasionally more or less perfectly sealed up when the tissue of the membrane, in their immediate neighbourhood, is developed in an unusual degree. The external surface of each membrane has the same shaggy, ragged form. In each we have the same cribrate form appearance upon their smooth internal surface, marking the orifices of the mucous follicles. When examined under the microscope, the interstitial or inter-follicular tissue of both membranes shows a similar structure, namely, one wholly composed of an agglomeration or superposition of simple nucleated cells. And altogether, if, on the one hand, it be allowed that the structure of the decidua proves it to be the mucous membrane of the uterus in a state of high development and hypertrophy, then, on the other hand, the structure of the dysmenorrheal membrane is so similar to that of the decidua, as to prove a perfect identity with the decidua in its characters, and, consequently, also in its origin.

In some respects the evidence which we have in favour of the decidual membrane being merely a hypertrophied state of the mucous membrane of the uterus, is still wanting, in so far as regards the dysmenorrheal membrane. For, *first*, in cases of patients dying at different periods of early pregnancy, a regular progression of observations has now been made, showing the gradual transformation of the true mucous into the true decidual membrane; and, *secondly*, in patients dying after delivery, and, consequently, after the separation of the decidual or lining membrane of the uterus, the actual absence of the mucous surface of the uterus has been often ascertained on dissection. I lately saw a case where the patient died six weeks after delivery, and still, at that late date after confinement, the mucous lining of the uterus was not yet regenerated. No corresponding series of observations has hitherto been made upon the actual formation of the dysmenorrheal membrane before menstruation, or upon its actual absence after that period. But a more careful investigation of the state of the uterus after death, in patients who have happened to be suffering under membranous dysmenorrhœa during life, will, I have no doubt, afford the

requisite data. It may not be uninteresting to add, that the absence of the mucous lining of the uterus in persons who have died after delivery, or who have been previously subject to membranous dysmenorrhœa, may have given rise to the strong opinions expressed in former times by several anatomists, and particularly by Morgagni, Chaussier, and Gordon, in regard to the human uterus not being normally provided with a mucous membrane. Not meeting with that membrane under some circumstances and in some cases, they were induced to doubt its presence under any circumstances or in any cases.

Modern physiology has made us sufficiently acquainted with the curious fact, that a portion of the epithelial layer of the mucous surface of various organs, exfoliates constantly and normally during the performance of the special functions of these organs. For instance, this holds true with regard to the epithelium of the stomach during digestion, and that of the uterus during menstruation. But there are few circumstances, either in healthy or morbid anatomy, so strange as that which I have attempted to prove in the preceding remarks, namely, that the proper mucous tissue of the uterus itself may, within the compass of a menstrual period, form, enlarge, separate, and again be reproduced; and further, that all this may occur and continue regularly for a succession of months, or, as sometimes happens, for a succession of years.

I have no intention, however, at present of dwelling either upon the various pathological or practical views to which the opinion that I have above propounded regarding the origin and nature of the dysmenorrheal membrane, very evidently points. It is enough perhaps to remark, that the observations which I have made go to demonstrate that the dysmenorrheal membrane is not formed, as is generally believed, by a simple inflammatory effusion of plastic or coagulable lymph, and hence is not to be successfully prevented and combated by simple anti-inflammatory treatment. The action giving rise to it may in some cases be combined or complicated with inflammation. I have seen, for example, the membranous dysmenorrhœa in several instances co-existing with inflammatory induration and ulceration of the cervix uteri. But essentially, the normal action of the uterus or ovaries giving rise to the formation of the dysmenorrheal membrane is not a state identical with inflammation, but a state identical with the condition of these organs after impregnation and during the earlier weeks of pregnancy. It is so far a state and product natural to one special condition of the uterus, but here occurring at an unnatural time, under unnatural circumstances, and with unnatural frequency.

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